AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-16 – Cancelled.

17. (New) Method for generating transgenic eukaryotic cells having a modified Rosa26 locus, which method comprises (a) introducing a functional DNA sequence into the Rosa26 locus of starting eukaryotic cells, wherein said functional DNA sequence is a gene expression cassette comprising a gene of interest operatively linked to a promoter or is a DNA sequence which can be converted into such gene expression cassette.

18. (New) The method of claim 17, wherein the functional DNA sequence is introduced into the eukaryotic cells by homologous recombination with a targeting vector comprising said functional DNA sequence flanked by DNA sequences homologous to the Rosa26 locus.

19. (New) The method of claim 17, wherein the functional DNA sequence is introduced into the eukaryotic cells by site specific recombinase mediated recombination with a recombination vector comprising said functional DNA sequence flanked by a pair of first recombinase recognition sites (RRSs).

20. (New) The method of claim 17, wherein the eukaryotic cells are derived from a multi-cell organism.

21. (New) The method of claim 20, wherein the multi-cell organism is selected from the group consisting of vertebrates, invertebrates and plants.

22. (New) The method of claim 20, wherein the eukaryotic cells are vertebrate cells.

23. (New) The method of claim 20, wherein the eukaryotic cells are derived from a mammal.

24. (New) The method of claim 23, wherein the mammal is a rodent.

25. (New) The method of claim 24, wherein the rodent is selected from the group consisting of mouse and rat.

26. (New) The method of claim 20, wherein the eukaryotic cells are derived from a fish.

27. (New) The method of claim 26, wherein the fish is zebrafish.

28. (New) The method of claim 20, wherein the eukaryotic cells are selected from the group consisting of primary cells and immortalized cells.

29. (New) The method of claim 20, wherein the eukaryotic cells are mammalian embryonic stem (ES) cells.

30. (New) The method of claim 17, wherein the gene of interest is selected from the group of genes consisting of recombinases, reporter genes, receptors, signaling molecules, transcription factors, pharmaceutically active proteins and peptides, drug target candidates, disease causing gene products and toxins.

31. (New) The method of claim 17, wherein the promoter is a heterologous promoter.

32. (New) The method of claim 31, wherein the promoter is selected from the group consisting of a constitutive ubiquitous promoter, a constitutive tissue specific promoter, an inducible ubiquitous promoter and an inducible tissue specific promoter.

33. (New) The method of claim 31, wherein the promoter is selected from the group consisting of a CAGGS, hCMV, PGK, FABP, Lck, CamKII, CD19, Keratin, Albumin, aP2, Insulin, MCK, MyHC, WAP, Col2A, Mx, tet and Trex promoter.

34. (New) The method of claim 17, wherein the functional DNA sequence or gene expression cassette further comprises one or more additional functional sequences selected from the group consisting of marker genes, second recombinase recognition sites differing from the first recombinase recognition sites, poly A signal and introns.

35. (New) The method of claim 17, wherein the targeting vector and recombination vector further comprises functional sequences selected from the group consisting of tags for protein detection, enhancers and selection markers.

36. (New) The method of claim 18, wherein the DNA sequences homologous to the Rosa26 locus are 0.2 to 20 kB long.

37. (New) The method of claim 36, wherein the DNA sequences homologous to the Rosa26 locus are 1 to 10 kB long.

38. (New) The method of claim 36, wherein the transgenic eukaryotic cells are derived from mouse and the DNA sequences homologous to the Rosa26 locus are derived from the 5' and 3' flanking arm of the mouse Rosa26 locus.

39. (New) The method of claim 38, wherein said homologous DNA sequences have the sequences shown in SEQ ID NO:4 and 5, respectively.

40. (New) The method of claim 36, wherein the transgenic eukaryotic cells are derived from mouse, and the promoter is a CAGGS-promoter.

41. (New) The method of claim 36, wherein the targeting vector has the sequence shown in SEQ ID NO:7.

42. (New) The method of claim 19, which comprises the steps of

(a1) introducing into the starting cells an acceptor DNA which integrates into the genome of the starting cell, the acceptor DNA comprising two mutally incompatible first RRSs, and introducing into the therewith obtained cell

(a2) a donor DNA comprising the same two mutually incompatible first RRSs contained in the acceptor DNA by utilizing a recombination vector as defined in claim 19; and

(a3) the recombinase which catalyzes recombination between the RRSs of the acceptor and donor.

43. (New) The method of claim 42, wherein the RRS are loxP or FRT sites or variants thereof.

44. (New) The method of claim 42, wherein the acceptor DNA comprises a negatively selectable marker gene.

45. (New) The method of claim 42, wherein the donor DNA comprises an inactive positive selection marker.

46. (New) The method of claim 17, which further comprises one or more of the steps selected from the group consisting of

(b) isolating the eukaryotic cells, preferably the ES cells having the desired functional DNA sequence integrated into the Rosa26 locus; and

(c) modifying the integrated functional DNA sequence and isolating ES cells having the desired modified functional DNA sequence.

47. (New) A targeting vector comprising a functional DNA sequence as defined in claim 17.

48. (New) A eukaryotic cell having a modified Rosa26 locus obtainable by the method of claim 17.

49. (New) A method for preparing a transgenic multi-cell organism having a modified Rosa26 locus which comprises utilizing the method as defined in claim 17.

50. (New) The method of claim 49, wherein the transgenic multi-cell organism is a non-human mammal and said method comprises modifying an ES cell.

51. (New) The method of claim 49, which further comprises one or more of the steps selected from the group consisting of

(d) injecting ES cells obtained in steps (b) or (c) into blastocysts; and

(e) generating transgenic non-human animals carrying one or more functional genes of interest at the Rosa26 locus.

52. (New) A transgenic multi-cell organism or a transgenic non-human mammal obtainable by the method of claim 49, and having an operatively functional gene expression cassette integrated into its Rosa26 locus.

53. (New) A method for studying gene functions which comprises utilizing a biological entity selected from a eukaryotic cell, a transgenic multi-cell organism, or a transgenic non-human mammal obtainable utilizing the method of claim 17.

54. (New) A method for drug development, which comprises contacting the drug candidate with a biological entity selected from a eukaryotic cell, a transgenic multi-cell organism, or a transgenic non-human mammal obtainable utilizing the method of claim 17.

55. (New) A method for drug development, which comprises utilizing a biological entity selected from a eukaryotic cell, a transgenic multi-cell organism, or a transgenic non-human mammal obtainable utilizing the method of claim 17 as a disease model animal.